

<p>QUESTIONS</p> <p>1. Explain the difference between a <i>de novo</i> mutation and a <i>reversion</i> mutation.</p> <p>2. Explain the difference between a <i>point mutation</i> and a <i>frameshift mutation</i>.</p> <p>3. Explain the difference between a <i>silent mutation</i> and a <i>missense mutation</i>.</p> <p>4. Explain the difference between a <i>synonymous mutation</i> and a <i>non-synonymous mutation</i>.</p> <p>5. Explain the difference between a <i>stop codon</i> and a <i>start codon</i>.</p> <p>6. Explain the difference between a <i>transcription factor</i> and a <i>translation factor</i>.</p> <p>7. Explain the difference between a <i>promoter</i> and an <i>enhancer</i>.</p> <p>8. Explain the difference between a <i>transcript</i> and a <i>protein</i>.</p> <p>9. Explain the difference between a <i>gene</i> and a <i>locus</i>.</p> <p>10. Explain the difference between a <i>allele</i> and a <i>variant</i>.</p> <p>11. Explain the difference between a <i>genotype</i> and a <i>phenotype</i>.</p> <p>12. Explain the difference between a <i>genotype</i> and a <i>phenotype</i>.</p> <p>13. Explain the difference between a <i>genotype</i> and a <i>phenotype</i>.</p> <p>14. Explain the difference between a <i>genotype</i> and a <i>phenotype</i>.</p> <p>15. Explain the difference between a <i>genotype</i> and a <i>phenotype</i>.</p> <p>16. Explain the difference between a <i>genotype</i> and a <i>phenotype</i>.</p> <p>17. Explain the difference between a <i>genotype</i> and a <i>phenotype</i>.</p> <p>18. Explain the difference between a <i>genotype</i> and a <i>phenotype</i>.</p> <p>19. Explain the difference between a <i>genotype</i> and a <i>phenotype</i>.</p> <p>20. Explain the difference between a <i>genotype</i> and a <i>phenotype</i>.</p>	<p>ANSWERS</p> <p>1. A <i>de novo</i> mutation is a new mutation that arises spontaneously in an individual, while a <i>reversion</i> mutation is a mutation that restores the original sequence of a gene.</p> <p>2. A <i>point mutation</i> is a mutation that changes a single nucleotide, while a <i>frameshift mutation</i> is a mutation that changes the reading frame of a gene by inserting or deleting nucleotides.</p> <p>3. A <i>silent mutation</i> is a mutation that does not change the amino acid sequence of a protein, while a <i>missense mutation</i> is a mutation that changes the amino acid sequence of a protein.</p> <p>4. A <i>synonymous mutation</i> is a mutation that does not change the amino acid sequence of a protein, while a <i>non-synonymous mutation</i> is a mutation that changes the amino acid sequence of a protein.</p> <p>5. A <i>stop codon</i> is a codon that signals the end of a protein, while a <i>start codon</i> is a codon that signals the beginning of a protein.</p> <p>6. A <i>transcription factor</i> is a protein that binds to DNA and regulates the transcription of a gene, while a <i>translation factor</i> is a protein that binds to mRNA and regulates the translation of a protein.</p> <p>7. A <i>promoter</i> is a region of DNA that initiates the transcription of a gene, while an <i>enhancer</i> is a region of DNA that increases the rate of transcription of a gene.</p> <p>8. A <i>transcript</i> is a single-stranded molecule of RNA that is produced from a gene, while a <i>protein</i> is a chain of amino acids that is produced from a transcript.</p> <p>9. A <i>gene</i> is a segment of DNA that contains the information to produce a protein, while a <i>locus</i> is a specific location on a chromosome.</p> <p>10. An <i>allele</i> is a variant form of a gene, while a <i>variant</i> is a change in the sequence of a gene.</p> <p>11. A <i>genotype</i> is the genetic makeup of an individual, while a <i>phenotype</i> is the observable characteristics of an individual.</p> <p>12. A <i>genotype</i> is the genetic makeup of an individual, while a <i>phenotype</i> is the observable characteristics of an individual.</p> <p>13. A <i>genotype</i> is the genetic makeup of an individual, while a <i>phenotype</i> is the observable characteristics of an individual.</p> <p>14. A <i>genotype</i> is the genetic makeup of an individual, while a <i>phenotype</i> is the observable characteristics of an individual.</p> <p>15. A <i>genotype</i> is the genetic makeup of an individual, while a <i>phenotype</i> is the observable characteristics of an individual.</p> <p>16. A <i>genotype</i> is the genetic makeup of an individual, while a <i>phenotype</i> is the observable characteristics of an individual.</p> <p>17. 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